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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/292,056	Applicant(s) GREENBERGER ET AL.	
	Examiner Jehanne Souaya	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *15 April 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,47-64,70,74-81,86-100,103,104 and 114-123* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,47-64,70,74-81,86-100,103,104 and 114-123* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Currently, claims 1, 47-64, 70, 74-81, 86-100, 103, 104, 114-123 and newly added claim 124 are pending in the instant application. All the amendments and arguments have been thoroughly reviewed but are deemed insufficient to place this application in condition for allowance. Any rejections not reiterated are hereby withdrawn. The following rejections are either newly applied (necessitated by amendment) or are reiterated. They constitute the complete set being presently applied to the instant Application. Response to Applicant's arguments follow. This action is FINAL.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Maintained Rejections

Claim Rejections - 35 USC § 102

3. Claims 114, 115, and 118-123 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruhashi *et al.* (U.S. Patent 5,403,735 (Apr. 4, 1995)). Maruhashi teaches a method and apparatus for culturing and detecting cells (abstract). Maruhashi teaches that prior art methods of testing a cell culture for cell viability, growth rate or other diagnostic means have the disadvantages of requiring the opening of a closed and sterile culture system to test, liquid used for testing cannot be returned to the culture because of stains used to test viability, and that such

staining means are not very reliable and do not provide any information as to the ratio of viable cells (col. 2 line 48-col. 3 line 12). Maruhashi teaches means for culturing and observing cellular cultures where the means for culturing and means for detecting are in fluid communication so that the culture system does not need to be opened and where microscopy is used to detect cell division state, thereby obviating the need for staining or culture sampling (col. 8 lines 36-67 & Fig.s 1, 4 & 8). Maruhashi teaches that such a system can include a temperature controller, pumps and injectors to maintain the pH, temperature, osmotic pressure, dissolved oxygen (col. 7 line 64-col. 8 line 5, col. 16 lines 18-45& Figure. 21 & 23). Maruhashi teaches that the microscope is in communication with a television camera to capture images and an image processing and calculating device (i.e. computer; see col. 8, line 67-col. 9 line 11). Maruhashi teaches that two microscopes, camera and data processor setups can be used simultaneously (Figure. 8). Maruhashi teaches a cell culture system (Figure 21 and col. 16, lines 18-52) where an image pick up device (e.g. a microscope (509)) is linked to a controller (510) and is directly attached to the culture vessel (506). Maruhashi teaches that the image pick up device (509) operates as describe for other embodiments of the invention and describes (509) as monitoring the cells and microscopic small particles (col. 16, lines 35-40). Therefore, the teachings of Maruhashi as to a method and apparatus for monitoring cell activity by using a culturing and testing system in fluid communication where the temperature and pH of the culture is regulated and the testing system comprises a microscope, television camera and data processor and where

the cells are examined in the location in which they are grown, anticipates all of the limitations of the instantly claimed invention.

Response to Arguments

4. The response traverses the rejection. The response states that Maruhashi is concerned with large numbers of cells and that Maruhashi provides no motivation or suggestion of examining a single cell over time. This argument has been thoroughly reviewed but was found unpersuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an apparatus wherein each individual cell of the plurality of cells can be examined over time) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Claims 57, 74, 80, 86-88, 90, 93, 99, 100, 114, 115, 118-123, and newly added claim 124 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuzaki *et al.* (U.S. Patent 5,162,204 (Nov. 10, 1992)).

Matsuzaki teaches a method and apparatus for culturing and detecting under conditions where the detecting step is performed under the physiological conditions of the culturing step, the detection portion of the apparatus is in fluid communication with the culturing portion (abstract,

col. 1 lines 11-15, lines 60-65). Matsuzaki also teaches (col. 9 lines 17-24 and Figure 11) that the observing or detecting portion (4') of the apparatus may be an integral portion of the culturing vessel ((1); i.e. place where cells are grown). Matsuzaki teaches that this system has the advantage of not exposing the culture to external conditions during the detecting step, the culture used for detection can be returned to the culturing vessel, and that information obtained from the detecting step can then be used to effect changes in the composition of the culture thereby enhancing culturing efficiency (abstract, col. 2 lines 31-36 and 43-45 & col. 3 lines 13-15). Matsuzaki teaches that the use of a microscope for the detection of the culture and a digital processor (i.e. computer) to processes the images (col. 5, line 63-65 & Figure. 14). Matsuzaki teaches that the temperature, pH and dissolved oxygen and carbon dioxide conditions of the culture are monitored and controlled (col. 8 line 65-col. 9 line 5, Fig.s 5 & 12). Therefore, Matsuzaki anticipates all of the limitations of the instant claims by teaching a method and apparatus for culturing and measuring cell conditions where the culturing and measuring components are in fluid communication and a microscope and data processor are used to detect the cells and where the state of the cells is detected in the vessel in which the cells are grown. It is noted that the claimed subject matter drawn to a method of holding cells merely recited that two cells are measured and does not impose the limitation the cells are obtained from separate compartments. With regard to newly added claim 124, Matsuzaki teaches that the image device provides information about the diameter of the cells and that the data is transmitted to the cell

image recognition circuit (60) which recognizes all of the cells regardless of their life or death (see col. 6, lines 29-43).

Response to Arguments

6. The response traverses the rejection. The response asserts that Matsuzaki provides no teaching or suggestion on how to separate a cell from the other cells it is with, either physically or with markers to be able to determine the state of the cell over time. This argument has been thoroughly reviewed but was not found persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. an apparatus that separates a cell from other cells, either physically or with markers) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The response further asserts that it is clear from the teaching of Matsuzaki that the culture medium with the cells is fed to an observing portion and that there is no teaching or suggestion of a mechanism for incubating the plurality of cells in which each individual cell can be examined over time. This argument has been thoroughly reviewed but was found unpersuasive. With regard to claims 114, 115, and 118-123, it is noted that the claims do not contain the limitation of a mechanism for incubating the plurality of cell in which each individual cell can be examined over time. With regard to the remaining claims Matsuzaki teaches that the image device provides information about the

diameter of the cells and that the data is transmitted to the cell image recognition circuit (60) which recognizes all of the cells regardless of their life or death (see col. 6, lines 29-43). Matsuzaki teaches that the culture medium is intermittently fed from the culturing vessel to the measuring portion, thus Matsuzaki also teaches examining the individual cells over time. While Matsuzaki's device requires that the culture media is fed to an observing portion, the instantly rejected claims do not require that the cells be separated or observed in the mechanism for incubating.

Claim Rejections - 35 USC § 103

7. Claims 1, 47-64, 70, 74-81, 86-100, 103, 104, 116, 117, and newly added claim 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Maruhashi et al (U.S. Patent 5,403,735 (Apr. 4, 1995) and Weinreb et al (US Patent 5,310,764) in view of Shuler *et al.* (U.S. Patent 5,612,188 (Mar. 18, 1997; effective filing date May 24, 1993)).

Maruhashi teaches a method and apparatus for culturing and detecting cells (abstract). Maruhashi teaches means for culturing and observing cellular cultures where the means for culturing and means for detecting are in fluid communication so that the culture system does not need to be opened and where microscopy is used to detect cell division state, thereby obviating the need for staining or culture sampling (col. 8 lines 36-67 & Fig.s 1, 4 & 8). Maruhashi teaches that such a system can include a temperature controller, pumps and injectors to maintain the pH, temperature, osmotic pressure, dissolved oxygen (col. 7 line 64-col. 8 line 5, col. 16 lines 18-45& Figure. 21 & 23). Maruhashi teaches that the microscope is in communication with a television

camera to capture images and an image processing and calculating device (i.e. computer; see col. 8, line 67-col. 9 line 11). Maruhashi teaches that two microscopes, camera and data processor setups can be used simultaneously (Figure. 8). Maruhashi teaches a cell culture system (Figure 21 and col. 16, lines 18-52) where an image pick up device (e.g. a microscope (509)) is linked to a controller (510) and is directly attached to the culture vessel (506). Maruhashi teaches that the image pick up device (509) operates as described for other embodiments of the invention and describes (509) as monitoring the cells and microscopic small particles (col. 16, lines 35-40).

Although Maruhashi does not teach an apparatus where each individual cell can be examined while the cells remain in place in a location in which they are grown, Weinreb et al teach an apertured cell carrier where each individual cell has a specific defined address within the carrier so that each individual cell can be monitored (see abstract). Weinreb teaches that an object of their invention is to provide a process for multiplying cells located within the holes of the cell carrier. The apparatus of Weinreb contains holes in an array where each hole which contains an individual cell is known and is identifiable (see col.4, lines 14-15). Weinreb teaches that one can subject all of the cells to one or more tests, but can examine the properties of each cell by directing the particular diagnosing/ measuring instruments to the cell's unique address (col.4, lines 34-39). Weinreb further teaches that the apparatus includes a device for aligning the carrier with a device whereby the individual addresses of the holes in the carrier are identifiable by a set of x and y coordinates as when the carrier is viewed through a microscope (col.11, lines 50-55). Weinreb also teaches that an orifice (150) is connected by an outflow tube (160) to a

pump (162) where the pump serves to produce a pressure differential across the carrier which pulls the cells into the apertures of the carrier. Weinreb teaches that a basin (156) is configured so as to allow a microscope objective to be brought close enough to the carrier to bring the apertures into focus. Weinreb teaches that solutions are provided to the basin by one or more inflow tubes with are connected to syringe needles. The inflow tubes are used to introduce bathing and reagent solutions to the cells. Weinreb also teaches a certain embodiment wherein in response to command signals from a controller, such as a computer, separation and optical scanning are performed automatically, without need for a trained operator (see col. 26, lines 30-36).

Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to include the embodiment in the apparatus of Maruhashi that each cell be examined as Weinreb teaches an apparatus that enables the address of each cell to be known so that each cell can be identified and monitored wherein optical scanning is performed automatically and teaches that the cells in each hole may be multiplied. The ordinary artisan would have been motivated to modify the apparatus of Maruhashi to be able to monitor each individual cell automatically as in the apparatus of Weinreb because Weinreb teaches that a cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately (see col.6, lines 58-63). Therefore, the combined teachings of Maruhashi and Weinreb as to a method and apparatus for automatically monitoring cell activity by using a culturing and testing system in fluid

communication where the temperature and pH of the culture is regulated and the testing system comprises a microscope, television camera and data processor and where the cells are examined in the location in which they are grown, with the motivation taught by Weinreb to provide an apparatus wherein each individual cell can be monitored, teach the embodiments of the instantly claimed invention.

As discussed, the combined teachings of Maruhashi and Weinreb teach a method and an apparatus for monitoring cell activity by using a culturing and testing system in fluid communication where the temperature and pH of the culture is regulated and the testing system comprises a microscope, television camera and data processor and where the cells are examined in the location in which they are grown, where each individual cell can be monitored. Although Maruhashi and Weinreb do not teach an apparatus where *different* concentrations of metabolites or drugs can be tested simultaneously, Shuler teaches a system for culturing and detecting cell characteristics (abstract). The apparatus and method of Shuler comprises multiple compartments so that different cell samples or different drugs or cellular metabolites or different concentrations of drugs or cellular metabolites can be tested simultaneously (col. 2 lines 39-47 & col. 3 lines 17-42). Shuler teaches that the multiple culture chamber can be kept in a larger chamber with ports for injection and removal of culturing media (Figure. 5). Shuler teaches that such a biochamber can be in fluid communication with the detection system (Figure. 6). Shuler teaches that on-line detection of culture media can be conducted by numerous means (col. 6, lines 60-67). Shuler teaches that the temperature and culture components, such as oxygen and carbon dioxide are

monitored and regulated (col. 7 lines 36-43). It is noted that the claims recite that the cultures can be viewed, this term has been interpreted to mean that the cultures are visually accessible, as those of Shuler are and that the term "imaging mechanism" can encompass a visual image or a chromatograph generated from analysis of the contents of the cell culture, as that of Shuler.

Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to improve the method and apparatus of Maruhashi and Weinreb to provide an apparatus where different concentrations of metabolites and reagents can be tested. Thus the teachings of Maruhashi & Weinreb and Shuler would have permitted the ordinary artisan to have examined, for example the rate at which two distinct cells divided or the effect of a drug or cellular metabolite on cell division, included a test and control culture kept under the same culture conditions where the culturing and detecting are automated. It would have been further prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the method and apparatus of Maruhashi & Weinreb and Shuler so that both growth and quiescent media were available to be added to the cellular cultures so that when, as detected by the automated culturing and detecting system, the optimal growth conditions are achieved, cell division could have been slowed by the addition of a second media. It would have further been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have used the method and apparatus of Maruhashi & Weinreb and Shuler for detection of changes in the culture media as related to cell growth states to have provided additional information as to the cellular division process because Shuler teaches that the analysis of culture

media as an important tool in the study of cultured cells. Therefore the combined teachings of Maruhashi & Weinreb and Shuler teach all of the limitations of the instantly claimed invention by teaching a method and apparatus for holding, culturing and determining the state of cells where multiple samples are cultured and analyzed.

Response to Arguments

8. The response traverses the rejection. The response asserts that there is no teaching anywhere in Weinreb of a dynamically controlled environment system and that Maruhashi has no capability and no desire to track or capture an individual cell and that there is no teaching to combine these references or any reason to combine these references. This argument has been thoroughly reviewed but was found unpersuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the embodiment in the apparatus of Maruhashi that each cell be examined as Weinreb teaches an apparatus that enables the address of each cell to be known so that each cell can be identified and monitored wherein optical

scanning is performed automatically and teaches that the cells in each hole may be multiplied. The ordinary artisan would have been motivated to modify the apparatus of Maruhashi to be able to monitor each individual cell automatically as in the apparatus of Weinreb because Weinreb teaches that a cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately. With regard to the dynamically controlled environment, Maruhashi teaches means for culturing and observing cellular cultures where the means for culturing and means for detecting are in fluid communication so that the culture system does not need to be opened and where microscopy is used to detect cell division state, thereby obviating the need for staining or culture sampling (col. 8 lines 36-67 & Fig.s 1, 4 & 8). Maruhashi teaches that such a system can include a temperature controller, pumps and injectors to maintain the pH, temperature, osmotic pressure, dissolved oxygen. Furthermore, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Weinreb and Maruhashi teach apparatuses for culturing and detecting cells.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the

time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The response repeatedly traverses that no where in the cited references is it explained how to combine a closed system with an open system and that to combine the references requires extensive experimentation and design to approach applicant's claimed invention. This rejection was thoroughly reviewed but was found unpersuasive. Firstly, none of the claims recite any embodiments that are to a closed or open system. Secondly, the claims are broadly written and generally recite mechanisms with certain functions without specific structural embodiments to the mechanisms themselves or how they are connected. For example, claim 57 broadly claims a mechanism for incubating a plurality of cells in a dynamically controlled environment where each cell can be examined individually over time and a mechanism for automatically tracking and identifying division and differentiation of the individual cell over time. It would have been obvious to the ordinary artisan to include a dynamically controlled environment in the method of multiplying and testing individual cells of Weinreb (col. 4, lines 26-35) for the improvement of being able to test cells in a more natural environment as Maruhashi teaches that a system can include a temperature controller, pumps and injectors to maintain the pH, temperature, osmotic pressure, and dissolved oxygen. While claims 1 and 57 recite that the incubating mechanism is in communication with the determining mechanism or the tracking and identifying mechanism, respectively, the claims do not recite how or where the mechanisms are in communication with

one another, or that such communication is manipulated automatically. Claims 51, 70, and 74 for example, do not contain any embodiments that any of the mechanisms are connected to each other. The teachings of Maruhashi, Weinreb and Schuler were cited to indicate the state of the art with regard to, for example, apparatus with a) dynamically controlled environments, b) the ability to monitor individual cells automatically, c) the ability to test simultaneously, *different* concentrations of metabolites or drugs and d) multiple components that comprise a system including incubation, detection, and imaging components. Furthermore, with the recitation of the general word "mechanism" and functional language without, in many instances, any specific structural embodiments, it is unclear if applicant is intending to claim a "means".

The response asserts that all of the references are missing the important limitation of automatically tracking or determining the state of an individual cell over time. This argument has been thoroughly reviewed but was found unpersuasive because Weinreb teaches and embodiment wherein in response to command signals from a controller, such as a computer, separation and optical scanning are performed automatically, without need for a trained operator (see col. 26, lines 30-36). Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time of applicant's invention to further modify the apparatus of Maruhashi to include an automatic mechanism for detection. The ordinary artisan would have been motivated to modify the apparatus of Maruhashi for the obvious benefits that an automated system would have, such as reducing human error.

New Grounds of Rejection

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claim 1 is indefinite as it is unclear why the claim recites twice that the determining mechanism is in communication with the incubating mechanism. This redundancy renders the claim unclear. For example, it is unclear if the recitation of "while the environment is dynamically controlled and maintained in the desired condition" is a property of the incubating mechanism or a property of the determining mechanism in communication with the incubating mechanism.

B) Newly added claim 124 is confusing as it is unclear what is intended by the recitation of "includes an imaging mechanism which individually images said individual cell over *time of the plurality of cells in the incubating mechanism*. It is unclear if the claim intends to mean 'individually images said individual cell, wherein the individual cell is within the plurality of cells, over time while the cell is in the incubating mechanism'. However, as presently recited, the claim could also encompass individually imaging an individual cell wherein the determining mechanism and the imaging mechanism are separate from the incubating mechanism.

C) Claims 74 and 80 are indefinite as it is unclear if the mechanism for introducing quiescence media to the stem cell and the mechanism for controlling the environment about said individual cell, respectively, does so only to the stem cell or individual cell or also introduces media to the plurality of cells as well. The metes and bounds of the claim are unclear.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. No claims are allowable over the cited prior art.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jehanne Souaya whose telephone number is (703)308-6565. The examiner can normally be reached Monday-Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax phone number for this Group is (703) 305-3014.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Jehanne Souaya
Jehanne Souaya
Patent examiner
Art Unit 1634
7/12/02

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